

# Interdisciplinary approach to reducing HAI CDI

## Background

Hospital acquired *Clostridioides difficile* infections (CDI) is the leading cause of hospital-acquired infectious diarrhea.<sup>1</sup> The National Healthcare Safety Network (NHSN) guides hospitals to strive to achieve a Standardized Infection Ratio (SIR) <1. A multi-year process improvement project to reduce *Clostridioides difficile* Infections (CDI) was conducted at NMC Health. The objective was to achieve a SIR <1. NMC Health achieved a consistent outcome of CDI SIR <1 for 9 consecutive months by utilizing an interdisciplinary process improvement plan.

## Changes Tested

- Implemented stool tool- May 2018
- Provided re-education to clinical teams- July 2019
- Analyzed facility laundry practices- August 2019
- Conducted organizational CDI education at World Series Safety Day- October 2021
- Implementation of 2-step C-diff testing- May 2023
- Increase identification of colonization or active disease
- Daily surveillance and intervention by Infection Control Director and Infection preventions

## Daily Process:

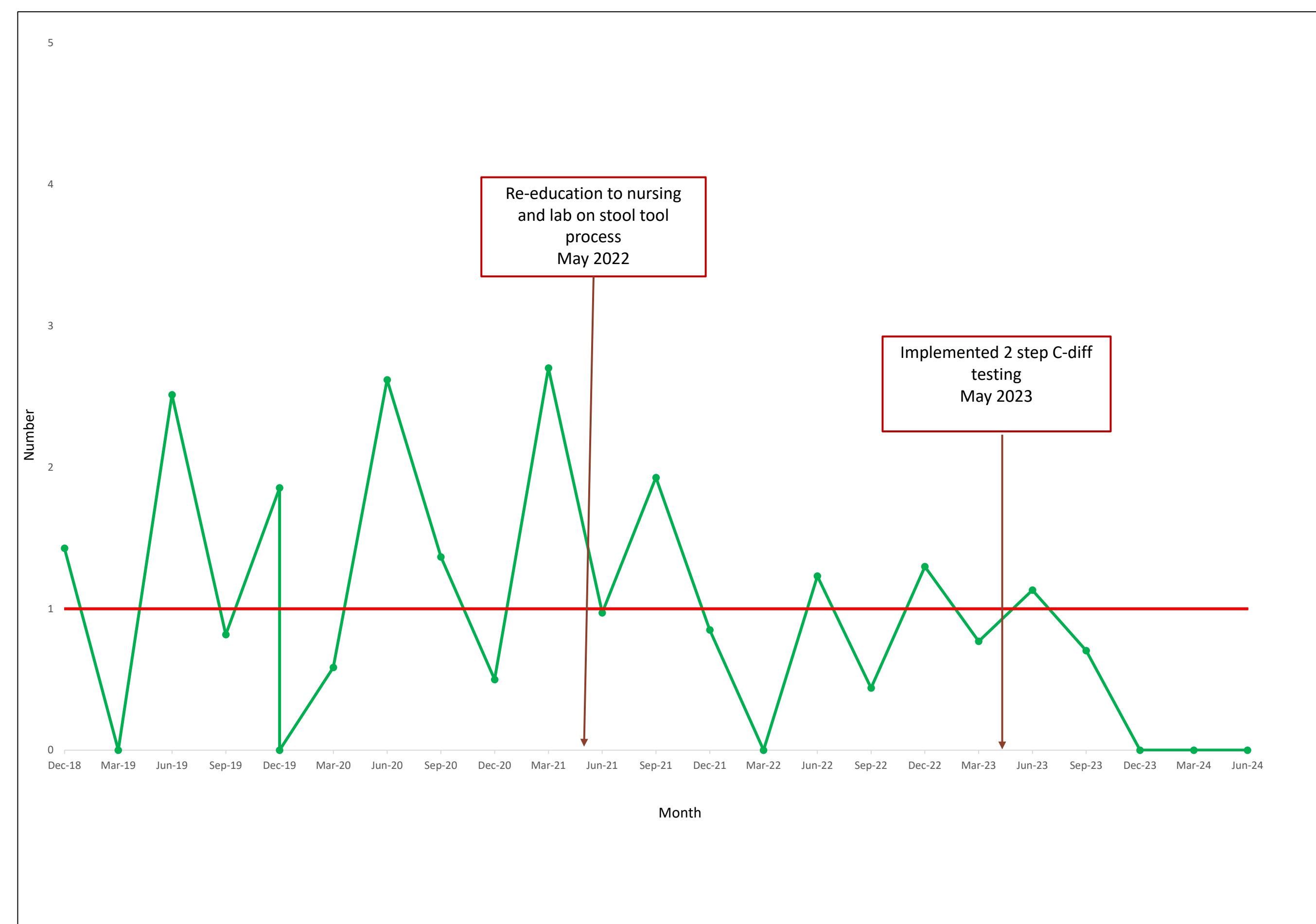
- Patient presents with symptoms of diarrhea
- Contact precautions initiated
- Utilization of standing order to obtain lab specimen after 3 loose stools in 24-hour period
- Infection Control Director monitors specimen submissions and re-educates in real time
- Lab confirms specimen meets criteria
- If polymerase chain reaction (PCR) test is positive, lab completes the toxin testing
- Toxin testing helps identify active infection or colonization
- Antibiotic stewardship efforts are achieved by promoting appropriate treatment

## Lessons Learned

- Zero HAI CDI from October 2023 to June 2024, totaling 3 quarters with a SIR >1.
- Engage front line staff for improved compliance.
- Provide frequent feedback to nursing and lab staff to reinforce the importance of the process.
- Audits of the processes are needed to ensure no steps are omitted and re-education can occur.
- Application of a shared governance approach is vital. The Infection Control Stewards are involved in developing policies and procedures, education and compliance checks.

## Next Steps

- Continue to strive for zero harm.
- Monitor the following items to ensure compliance.
  - Nursing staff completes stool tool with every stool specimen
  - Lab confirms criteria is met to complete the test
  - When PCR is positive, toxin test is completed
  - Provide feedback to nursing and lab staff, sharing successes and opportunities



## Results

Statistical analysis demonstrated that a decrease in HAI CDI was achieved after initiation of the stool tool. Significant reduction was identified after the addition of 2-step testing, daily surveillance and re-education of clinical teams. The current outcome is zero HAI CDI for 9 months consistently.

## Team Members

Dr. Shelley Jones, Janie Mosqueda, Ashley Zahn, and all clinical staff at NMC Health

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**C Diff Specimen Algorithm Tool (Tool for the Stool)**  
SEND FORM TO LAB WITH EVERY SPECIMEN. NOT PART OF THE PATIENT MEDICAL RECORD  
Put form in OUTSIDE POCKET of biohazard specimen bag

Patient sticker or name: \_\_\_\_\_

**NURSING:** 1. Fill out form BEFORE sending specimen (Consult with Charge Nurse if unsure about protocol)  
2. Count Hospital Days (Hint: Count the Admission day as Day # 1 and count as Day # 2 after Midnight and so on)  
Admission date: \_\_\_\_\_ Today date: \_\_\_\_\_ Hospital Day (HD) #: \_\_\_\_\_

3. If BEFORE or on Day # 3, **STOP** NO need to complete the rest of the form  
4. Send form with specimen as per protocol.

**LAB:** 1. If AFTER Hospital Day # 3 as per above count, ensure fields below are complete [ ]  
2. Contact Charge Nurse if ALL the rows below are not filled out after HD #3 for further instructions [ ]  
3. Stool specimen consistency:  Watery  Not multiphased [ ]  
3. Save form for Infection Control in Microbiology Folder [ ] Lab Tech Initials \_\_\_\_\_

NURSING: IF AFTER HOSPITAL DAY # 3 COMPLETE FORM	REQUIRED Answer or Choose:	CRITICAL THINKING
1. Counting Hospital Day (Day):	After Day # 3? Yes No	If after Day#3, protocol no longer applies. You must get a new physician's order to test the stool.
2. # of diarrhea stools in past 24 hours	Yes No	If less than 2 stools in 12 hours OR less than 3 stools in 24 hours, criteria is not met.
3. Character of stool: Need to be a LOOSE/LIQUID stool	Yes No	If formed or soft stool, criteria is not met. Specimen should conform to the container.
4. Has patient been fed from anything to promote diarrhea such as lactulose, enema, bowel prep, suppositories, laxatives, or tube feedings for at least 24 hours?	Yes No	All laxatives MUST be STOPPED for 1 day from if symptoms persist, test.
5. Symptoms Present: Elevated Temp (>100.4 F or 38 C)? Increased WBC? Abdominal pain, cramping, nausea, vomiting?	Yes No If Yes, list: _____	If no symptoms present, do not send sample, criteria is not met. Consider other potential causes.
6. If all answers are Yes, all criteria are met? Testing can proceed	Yes No	
7. If any answers are no, criteria is not met, ordering provider needs to be notified. If provider still wants to order specimen: Name of Clinician/Physician: _____	Order Verbal <input type="checkbox"/> Telephone <input type="checkbox"/> Physician entered <input type="checkbox"/>	Reminder: If patient has NO SYMPTOMS and provider does want to order specimen, document conversation in Progress Note using 'C Diff' cannot test note, and notify Infection Control.

PRINT RN Name (Required) \_\_\_\_\_ Charge Nurse Extension \_\_\_\_\_  
PRINT Charge Nurse Name (Required) \_\_\_\_\_

**Stool Tool**